Amendments to the Claims:

1-141. (Canceled).

142. (New) A method for producing a blend comprising randomly substituted mesogens, the method comprising:

providing a first phenylene ring comprising a first functional group at a para-position to a second functional group;

providing a second phenylene ring comprising a third functional group at a para-position to a fourth functional group;

providing a third phenylene ring comprising a desired substituent and comprising a first functionality at a para- position to a second functionality; and

forming a mixture comprising said first phenylene rings, said second phenylene rings, and said third phenylene rings;

exposing said mixture to conditions effective to react said second functional group with said first functionality to produce a first ester bond between said first phenylene ring and said third phenylene ring, said conditions being effective to react said fourth functional group with said second functionality to produce a second ester bond between said second phenylene ring and said third phenylene ring, producing platform molecules comprising terminal groups comprising said first functional group at position para- to said first ester bond and said third functional group at a position para- to said second ester bond, said conditions producing terminal groups comprising other than polymerizable groups,

one or more of said terminal groups being selected from the group consisting of $HO-(CH_2)_n-O-$ groups, $Cl(CH_2)_n-O-$ groups, $Br(CH_2)_n-O-$ groups, $I(CH_2)_n-O-$, and reactive derivatives thereof, wherein n is from about 2 to about 12 and CH_2 independently is selected from the group consisting of CH_2 which is unsubstituted and CH_2 which is substituted by an element selected from the group consisting of oxygen, sulfur, and an ester group; provided that at least 2 carbon atoms separate said oxygen or said ester group;

wherein said desired substituent is a bulky organic group whereby, when both of said terminal groups are reacted with polymerizable groups to produce polymerizable mesogens, said desired substituent provides sufficient steric hindrance to achieve a nematic state at room temperature while suppressing crystallinity of said polymerizable mesogens at room temperature; and,

independently reacting one of said terminal functionalities with a polymerizable group, producing a blend of randomly substituted mesogens comprising polymerizable end groups in about 50 wt% or more of said blend, said blend having a T_c of from about 20 °C to about 37 °C and a ΔT of about 10 °C or more.

143. (New) The method of claim 142 further comprising providing one or more of said first functional group and said third functional group selected from the group consisting of hydroxyl groups, amino groups, sulfhydryl groups, and halogen atoms.

144. (New) The method of claim 142 comprising producing said blend comprising polymerizable end groups in about 60 wt% or more of said blend.

145. (New) The method of claim 142 comprising producing said blend comprising polymerizable end groups in about 70 wt% or more of said blend.

146. (New) The method of claim 142 further comprising providing said polymerizable group comprising a carboxyl group or a reactive derivative of a carboxyl group, said method further comprising reacting one or more of said first functional group and said second functional group with said carboxyl group or said reactive derivative of a carboxyl group.

147. (New) The method of claim 142 wherein said polymerizable groups comprise a polymerizable unsaturated carbon-carbon bond and having from about 2 to about 12 carbon atoms.

148. (New) The method of claim 142 wherein said polymerizable group comprises a polymerizable unsaturated carbon-carbon bond and having from about 2 to about 6 carbon atoms.

149. (New) A method for producing a blend comprising randomly substituted mesogens, said method comprising:

reacting 4-nitrobenzoic acid with a 1,n-dihydroxyalkane comprising an alkylene group having from about 2 to about 12 carbon atoms in the presence of an esterification catalyst under esterification conditions effective to produce a hydroxyalkyl ester of 4-nitrobenzoic acid;

treating the hydroxyalkyl ester of 4-nitrobenzoic acid under cleaving conditions

effective to produce 4-(n-hydroxyalkoxy)benzoic acid, wherein n is the number of carbon atoms in said alkylene group;

providing said 4-(n-hydroxyalkoxy)benzoic acid as one or more of a phenylene ring selected from the group consisting of a first phenylene ring comprising a first carboxylic group and a second phenylene ring comprising a second carboxylic group;

providing a third phenylene ring comprising a desired substituent and comprising a first functionality at a para- position to a second functionality;

reacting said first carboxylic group with said first functionality, producing a first ester bond between said first phenylene ring and said third phenylene ring; and

reacting said second carboxylic group with said second functionality, producing a second ester bond between said second phenylene ring and said third phenylene ring, thereby producing platform molecules comprising a first hydroxyalkoxy group at a position para- to said first ester bond and a second hydroxyalkoxy group at a position para- to said second ester bond, wherein when both said first hydroxyalkoxy group and said second hydroxyalkoxy group comprise polymerizable groups, said desired substituent provides sufficient steric hindrance to achieve a nematic state at room temperature while suppressing crystallinity at room temperature; and

independently reacting at least one member selected from the group consisting of

said first hydroxyalkoxy group and said second hydroxalkoxy group with a terminal group comprising a polymerizable group, thereby producing a blend of randomly substituted mesogens comprising polymerizable end groups in about 50 wt% or more of said blend and having a T_c of from about 20 °C to about 37 °C and a ΔT of about 10 °C or more.

150. (New) The method of claim 149 comprising producing said blend having a ΔT of about 20 °C or more.

151. (New) The method of claim 149 comprising producing said blend having a ΔT of about 30 °C or more.

152. (New) The method of claim 149 further comprising converting said nitrobenzoic carboxyl group to a reactive derivative thereof before reacting said first carboxylic group with said first functionality and before reacting said second carboxylic group with said second functionality.

153. (New) The method of claim 152, said converting comprising converting said 4-(n-hydroxyalkoxy)benzoic acid under conditions effective to produce 4-(n-chloroalkoxy)benzoyl chloride.

154. (New) The method of claim 149 comprising producing said blend comprising polymerizable end groups in about 60 wt% or more of said blend

155. (New) The method of claim 149 comprising producing a blend comprising polymerizable end groups in about 70 wt% or more of said blend

156. (New) The method of claim 149 further comprising providing a terminal group comprising a carboxyl group comprising a polymerizable unsaturated carbon-carbon

bond having from about 2 to about 12 carbon atoms.

157. (New) The method of claim 149 comprising providing polymerizable groups comprising a polymerizable moiety selected from the group consisting of acryloyl groups and methacryloyl groups.

158. (New) The method of claim 149 comprising providing polymerizable groups comprising a polymerizable moiety selected from the group consisting of cinnamoyl groups, acryloyl groups, and methacryloyl groups.

159. (New) The method of claim 149 wherein said esterification conditions comprise dissolving said 4-nitrobenzoic acid in an excess of said 1,n-dihydroxyalkane in the presence of esterification catalyst selected from the group consisting of titanium alkoxides, tin alkoxides, and sulfonic acids.

160. (New) The method of claim 159 wherein said esterification catalyst is $Ti(OBu)_4$.

161. (New) The method of claim 159 wherein said esterifcation conditions further comprise adding alkali salts of diols and solvent to produce a displacement mixture, and exposing said displacement mixture to displacement conditions effective to displace the activated nitro group, producing 4-(1-hydroxyalkyloxy)benzoic acid (1-hydroxyalkyl ester) and dimer thereof.

162. (New) The method of claim 161 wherein said solvent is aprotic.

163. (New) The method of claim 161 wherein said solvent is selected from the group consisting of dimethyl sulfoxide (DMSO), dimethyl formamide (DMF), dimethyl acetamide (DMAC), hexamethyl phosphonamide (HMPA), N-methyl pyrrolidinone (NMP),

and combinations thereof.

164. (New) The method of claim 161 wherein said solvent is dimethylsulfoxide (DMSO).

165. (New) The method of claim 161 wherein said alkali salt is selected from the group consisting of NaH or $KOBu^t$.

166. (New) The method of claim 161 further comprising

diluting said displacement mixture with an aqueous base and heating the diluted displacement mixture to cleave dimer to produce a cleaved solution comprising 4-(n-hydroxyalkoxy)benzoic acid;

acidifying said cleaved solution; and,

precipitating said 4-(n-hydroxyalkoxy)benzoic acid.

167. (New) The method of claim 167 wherein said precipitating produces a supernatant comprising sodium chloride and nitrite, said method further comprising recovering said sodium chloride and nitrite.

168. (New) The method of claim 167 wherein said recovering comprises vacuum evaporating solvent selected from the group consisting of DMSO, hexanediol, water, and combinations thereof.

169. (New) The method of claim 166 further comprising converting said nitrobenzoic carboxyl group to a reactive derivative thereof before reacting said first carboxylic group with said first functionality and before reacting said second carboxylic group with said second functionality.

170. (New) The method of claim 169 wherein said converting comprises reacting

said 4-(n-hydroxyalkoxy)benzoic acid with chloride under conditions effective to produce 4-(n-chloroalkoxy)benzoyl chloride.

171. (New) The method of claim 153 further comprising reacting said third phenylene ring with said 4-(n-chloroalkoxy)benzoyl chloride to produce said platform molecules.

172. (New) The method of claim 171 wherein said reacting conditions mixing said 4-(n-chloroalkoxy)benzoyl chloride and said third phenylene ring with pyridine to produce a reaction mixture.

173. (New) The method of claim 172 further comprising crystallizing bis 1,4 [4"-(n-chloroalkoxy) benzoyloxy] t-butyl phenylene from said reaction mixture.

174. (New) The method of claim 173 further comprising hydrolyzing said bis 1,4 [4"-(n-chloroalkoxy) benzoyloxy] t-butyl phenylene and recovering said platform molecule.

175. (New) The method of claim 174 wherein said hydrolyzing comprises heating a solution of said bis 1,4 [4"-(n-chloroalkoxy) benzoyloxy] t-butyl phenylene in aprotic solvent in the presence of water and potassium bromide, producing a platform molecule solution.

176. (New) The method of claim 175 further comprising recrystallizing said platform molecules from said platform molecule solution.

177. (New) The method of claim 176 further comprising exchanging said 4-(n-chloroalkoxy)benzoyl chloride with iodine before reacting said 4-(n-chloroalkoxy)benzoyl chloride with said third phenylene rings.

178. (New) The method of claim 149 further comprising stopping said reacting at intermediate times to produce desired mixtures of monofunctional and difunctional alcohol molecules.

179. (New) The method of claim 170 further comprising reacting said third phenylene ring with said 4-(n-chloroalkoxy)benzoyl chloride under reacting conditions effective to produce said platform molecules.

180. (New) The method of claim 179 wherein said reacting conditions mixing said 4-(n-chloroalkoxy)benzoyl chloride and said third phenylene ring with pyridine to produce a reaction mixture.

181. (New) The method of claim 180 further comprising crystallizing bis 1,4 [4"-(n-chloroalkoxy) benzoyloxy] t-butyl phenylene from said reaction mixture.

182. (New) The method of claim 181 further comprising hydrolyzing said bis 1,4 [4"-(n'-chloroalkoxy) benzoyloxy] t-butyl phenylene and recovering said platform molecule.

183. (New) The method of claim 182 wherein said hydrolyzing comprises heating a solution of said bis 1,4 [4"-(n-chloroalkoxy) benzoyloxy] t-butyl phenylene in aprotic solvent in the presence of water and potassium bromide, producing a platform molecule solution.

184. (New) The method of claim 183 further comprising recrystallizing said platform molecules from said platform molecule solution.

185. (New) The method of claim 184 further comprising exchanging said 4-(n-chloroalkoxy)benzoyl chloride with iodine before reacting said 4-(n-chloroalkoxy)benzoyl chloride with said third phenylene rings.

186. (New) A method for producing a blend comprising randomly substituted mesogens, the method comprising:

providing a first phenylene ring consisting essentially of a first functional group at a para-position to a second functional group;

providing a second phenylene ring consisting essentially of a third functional group at a para- position to a fourth functional group;

providing a third phenylene ring comprising a desired substituent and comprising a first functionality at a para- position to a second functionality; and

forming a mixture comprising said first phenylene rings, said second phenylene rings, and said third phenylene rings;

exposing said mixture to conditions effective to react said second functional group with said first functionality to produce a first ester bond between said first phenylene ring and said third phenylene ring, said conditions being effective to react said fourth functional group with said second functionality to produce a second ester bond between said second phenylene ring and said third phenylene ring, producing platform molecules comprising terminal groups comprising said first functional group at position para- to said first ester bond and said third functional group at a position para- to said second ester bond, said terminal groups

comprising other than polymerizable groups and being selected from the group consisting of amino groups, sulfhydryl groups, and halogen atoms;

wherein said desired substituent is a bulky organic group whereby, when both said first functional group and said third functional group are reacted with polymerizable groups to produce polymerizable mesogens, said desired substituent provides sufficient steric hindrance to achieve a nematic state at room temperature while suppressing crystallinity of said polymerizable mesogens at room temperature; and,

independently reacting at least one member selected from the group consisting of said first functional group and said third functional group with a terminal group comprising a polymerizable group, thereby producing a blend of randomly substituted mesogens comprising polymerizable end groups in about 50 wt% or more of said blend, said blend having a T_c of from about 20 °C to about 37 °C and a ΔT of about 10 °C or more.

187. (New) The method of claim 186 comprising producing said blend having a ΔT of about 30 °C or more.

188. (New) The method of claim 186 comprising producing said blend comprising polymerizable end groups in about 60 wt% or more of said blend.

189. (New) The method of claim 186 comprising producing said blend comprising polymerizable end groups in about 70 wt% or more of said blend.

190. (New) The method of claim 186 further comprising providing a terminal group comprising a carboxyl group or a reactive derivative of a carboxyl group, said method

further comprising reacting one or more of said terminal groups with said carboxyl group or said reactive derivative of a carboxyl group.

191. (New) The method of claim 186 comprising providing said polymerizable group selected from the group consisting of alkenyl ester groups comprising a polymerizable unsaturated carbon-carbon bond, said alkenyl having from about 2 to about 12 carbon atoms.

192. (New) The method of claim 186 wherein said polymerizable group comprises a moiety selected from the group consisting of cinnamoyl groups, acryloyl groups, methacryloyl groups, acryloyloxy groups, and methacryloyloxy groups.

193. (New) The method of claim 186 wherein one or more of said terminal groups is an amino group.